National Institute of Environmental Health Sciences

Evolution and public health

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Abstract:

Evolution and its elements of natural selection, population migration, genetic drift, and founder effects have shaped the world in which we practice public health. Human cultures and technologies have modified life on this planet and have coevolved with myriad other species, including microorganisms; plant and animal sources of food; invertebrate vectors of disease; and intermediate hosts among birds, mammals, and nonhuman primates. Molecular mechanisms of differential resistance or susceptibility to infectious agents or diets have evolved and are being discovered with modern methods. Some of these evolutionary relations require a perspective of tens of thousands of years, whereas other changes are observable in real time. The implications and applications of evolutionary understanding are important to our current programs and policies for infectious disease surveillance, gene-environment interactions, and health disparities globally.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2868289

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Impact:

specification of health effect or disease related to climate change exposure

Diabetes/Obesity, Infectious Disease, Respiratory Effect, Other Health Impact

Infectious Disease: Airborne Disease, Foodborne/Waterborne Disease, General Infectious Disease, Vectorborne Disease

Airborne Disease: Influenza, Other Airborne Disease

Airborne Disease (other): SARS

Foodborne/Waterborne Disease: Helminthiases

Vectorborne Disease: Mosquito-borne Disease

Mosquito-borne Disease: Malaria

Respiratory Effect: Other Respiratory Effect

Respiratory Condition (other) : SARS

Other Health Impact: HIV/AIDS; immune disorders

Resource Type:

format or standard characteristic of resource

Review

Timescale:

time period studied

Time Scale Unspecified